

CLAIMS

I claim:

1. A mounting assembly for a seatbelt tension sensor comprising:
a rigid member having one end operably coupled to a seatbelt portion;
a sensor mounted on said rigid member for measuring strain exerted on said rigid member by an input force applied to the seatbelt portion; and
a bracket having a first mounting portion for attachment to said rigid member and a second mounting portion for attachment to a vehicle structure to define a guide for isolating said sensor from non-axial input forces applied to the seatbelt portion.
2. An assembly according to claim 1 wherein said first mounting portion is parallel to said rigid member and said second mounting portion is non-parallel to said rigid member.
3. An assembly according to claim 2 wherein said second mounting portion is perpendicular to said rigid member.
4. An assembly according to claim 2 wherein said second mounting portion includes a pair of bosses mounted on opposing sides of said bracket, each of said bosses including an aperture for supporting a pivot shaft.

5. An assembly according to claim 4 wherein said rigid member defines an axial input load force axis and said pivot shaft defines a pivot axis that is transverse to said axial input load force axis.

6. An assembly according to claim 4 including an electrical connector mounted to said rigid member adjacent to said sensor for receiving strain measurements from said sensor and transmitting said measurements to a central processor to determine the magnitude of said input force.

7. An assembly according to claim 6 wherein said rigid member is a plate having a first end for attachment to said first mounting portion and a second end operably coupled to the seatbelt portion, said first and second ends being interconnected by a neck portion having a width that is less than the width of said first and second ends and wherein said sensor is mounted on said neck portion.

8. An assembly according to claim 7 wherein said first end defines a first opening and said first mounting portion defines a second opening, wherein said first end is overlaid on said first mounting portion to align said first and second openings.

9. An assembly according to claim 8 wherein said electrical connector is mounted to said rigid member adjacent to said second end between said first opening and said neck portion.

10. An assembly according to claim 2 wherein said vehicle structure is a B-pillar.

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11. A bracket for a seatbelt force sensor assembly comprising:

a generally flat body portion for supporting a seatbelt for sensor assembly, said body portion being defined by a first end, a second end, a first side interconnecting said first and second ends to define a first edge, and a second side interconnecting said first and second ends to define a second edge opposite from said first edge; and

a plurality of boss portions including at least a first boss portion extending outwardly along a portion of said first edge and a second boss portion extending outwardly along a portion of said second edge wherein said body portion and said boss portions define a guide.

12. A bracket according to claim 11 wherein said first end includes a mounting portion for attachment to the seatbelt force sensor assembly and said first and second bosses are positioned adjacent to said second end for attachment to a vehicle structure and to define a guide for isolating the sensor assembly from non-axial input forces.

13. A bracket according to claim 12 wherein said first and second bosses include circular openings aligned with one another for supporting a pivot shaft.

14. A bracket according to claim 13 wherein said body portion pivots about a pivot axis defined by said pivot shaft and relative to said vehicle structure.

15. A bracket according to claim 14 wherein said vehicle structure is a B-pillar.

16. A bracket according to claim 14 wherein said vehicle structure is a side anchor mount.

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17. A method of measuring a seatbelt force comprising the steps of:

mounting a seatbelt force sensor to a rigid plate member;

mounting one end of the rigid plate member to a seatbelt portion;

mounting an opposite end of the rigid plate member to a vehicle structure;

applying an input force to the seatbelt portion;

guiding the seatbelt portion with a guide member to isolate the seatbelt force sensor from input forces applied at an angle; and

generating an output signal from the seatbelt force sensor representative of the force applied to the seatbelt portion.

18. A method according to claim 17 including the step of pivotally mounting the guide member at one end between the rigid plate member and the vehicle structure.